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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/899,502	07/06/2001	Ralf Reimelt		9930

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EXAMINER

FRANK, RODNEY T

ART UNIT PAPER NUMBER

2856

DATE MAILED: 12/17/2002

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/899,502

Applicant(s)

REIMELT ET AL.

Examiner

Rodney T. Frank

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 17 October 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The corrected or substitute drawings were received on 17 October 2002. These drawings are acceptable.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lütke et al. (U.S. Patent Number 6,229,476) and further in view of Feese (U.S. Patent Number 4,171,609). Lütke et al. (hereinafter referred to as Lütke) discloses a liquid level meter. The meter comprises a signal generating unit (13) which generates high frequency measuring signals, a coupling-in unit (54) for coupling in on said waveguide the measuring signals, and waveguide (7) extending in the direction of the product when the apparatus is mounted on the container (3); a receiving/evaluating unit (15) for determining filling level or the position of the interface in the container via delay of time of the measuring signals reflected at the surface or interface of the product. Lütke does not however disclose a waveguide comprising a wire cable having a plurality of individual wires of a predetermined diameter twisted together.

Feese, however discloses a method and apparatus for manufacturing cables and lines with SZ-twisted elements. Column 1 lines 28-42 disclose a method of producing optical waveguides utilizing a method of twisting high tensile strength wires together.

The utilization of many ultrasonic transmission lines are well known in the art in reference to liquid level measurement. There are many types of transmission lines, such as waveguides, that may be used, which are well known. There are also many types of waveguides used that are well known to one of ordinary skill in the art. The motivation to combine Lütke with Feese is in order to obtain another embodiment of the system disclosed in Lütke utilizing a transmission line made from a waveguide produced by the SZ-twisted elements disclosed in Feese.

In reference to claim 14, column 6 lines 11 through 57 explain the basic operation of the receiving/evaluating unit.

In reference to claims 15 and 18, the applicant states on page 5 of the specification that 19 wires arranged in three layers is but one example of the waveguide, and therefore, this is a design choice of the applicant and not a limitation essential to the operation of the device.

In reference to claim 16, 19, and 20 specifically, column 2 lines 11-24 of Feese disclose that the wires twisted together have short reversal points of the twist direction.

In reference to claim 17, Feese discloses a waveguide as described in this claim. Claims 21-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lütke et al., and further in view of Bachmann et al. (U.S. Patent Number 4,976,509). Lütke, as discussed earlier, discloses a liquid level meter. The meter comprises a signal generating unit (13) which generates high frequency measuring signals, a coupling-in unit (54) for coupling in on said waveguide the measuring signals, and waveguide (7) extending in the direction of the product when the apparatus is mounted on the container (3); a receiving/evaluating unit (15) for determining filling level or the

Art Unit: 2856

position of the interface in the container via delay of time of the measuring signals reflected at the surface or interface of the product. Lütke does not however disclose a waveguide comprising a plurality of pieces, which are connected to one another via at least one flexible intermediate piece.

Bachmann et al. (hereafter referred to as Bachmann) discloses a flexible electrical control cable. The cable has a plurality of pieces (3), which are connected to one another via at least one flexible intermediate piece (2) comprising a wire cable. The pieces are tubes or rods. The waveguide (6) is covered in a mesh (10). The specifics to the majority of the claims are disclosed in column 2 lines 10-31.

In reference specifically to claims 30 and 31, page 8 of the specification describes how the transition of the piece and intermediate piece would be used as a defect to mark a reference point, and the cable described in Bachmann would be able to perform the same function.

Response to Arguments

4. Applicant's arguments filed 17 October 2002 have been fully considered but they are not persuasive. I will address the applicant's arguments in the following paragraphs.

In regard to the rejection of claims 1-20 the applicant argues in argument (1) that the examiner assumes that the wires claimed are nothing more than the "SZ-twisted wire" of Feese, and further states that the wire is twisted, as shown in figure 2, not about its own axis, but about the axis of the cable. The examiner would like to point out that he has assumed nothing, and the Feese reference meets the limitations of the claimed wire configuration and therefore satisfies the limitations as stated in the claims. Section 2111 of the MPEP states:

During patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification." Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces

the possibility that the claim, once issued, will be interpreted more broadly than is justified. In *re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969) (Claim 9 was directed to a process of analyzing data generated by mass spectrographic analysis of a gas. The process comprised selecting the data to be analyzed by subjecting the data to a mathematical manipulation. The examiner made rejections under 35 U.S.C. 101 and 102. In the 35 U.S.C. 102 rejection, the examiner explained that the claim was anticipated by a mental process augmented by pencil and paper markings. The court agreed that the claim was not limited to using a machine to carry out the process since the claim did not explicitly set forth the machine. The court explained that "reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from reading limitations of the specification into a claim, to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim." The court found that applicant was advocating the latter, i.e., the impermissible importation of subject matter from the specification into the claim.). See also *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit. Rather, the "PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant's specification.").

The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. In *re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999) (The Board's construction of the claim limitation "restore hair growth" as requiring the hair to be returned to its original state was held to be an unreasonably broad interpretation of the limitation. The court held that, consistent with applicant's disclosure and the disclosure of three patents from analogous arts using the same phrase to require only some increase in hair growth, one of ordinary skill would construe "restore hair growth" to mean that the claimed method increases the

Art Unit: 2856

amount of hair grown on the scalp, but does not necessarily produce a full head of hair.).

In this case, independent claim 13, even as amended, states "a waveguide which comprises a wire cable having a plurality of individual wires of a predetermine diameter which are twisted together;...", which is what the Feese reference discloses. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the wire twisted about the axis of the cable and not its own axis) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In regard to the rejection of claims 1-20 the applicant argues in argument (2) that even if the teaching were combined, the result would be entirely different than the present invention.

Section 2121.01 of the MPEP states:

"In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention not novel' or anticipated' within section 102, the stated test is whether a reference contains an enabling disclosure'... ." *In re Hoeksema*, 399 F.2d 269, 158 USPQ 596 (CCPA 1968). A reference contains an "enabling disclosure" if the public was in possession of the claimed invention before the date of invention. "Such possession is effected if one of ordinary skill in the art could have combined the publication's description of the invention with his [or her] own knowledge to make the claimed invention." *In re Donohue*, 766 F.2d 531, 226 USPQ 619 (Fed. Cir. 1985).

In this case, the Feese reference states clearly in column 4 lines 13-20 a process where four conductors containing flexible stranded wire are processed into an electrical cable. This would indicate a conductive wire that is made by twisting. As indicated in the new figure 2, the wires are

Art Unit: 2856

twisted in opposite directions, as also indicated in column 4 line 19 of Feese. This would indicate that a waveguide, such as disclosed in the present application, could be manufactured by one of ordinary skill in the art in view of the disclosure of Feese.

In response to applicant's argument (3) that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Feese reference shows a way to manufacture a conductive cable/waveguide formed from twisted wires, as stated by the applicant. The Lütke et al. reference shows a waveguide of a different manufacture, but its purpose is to transmit signals down from the signal generator into the material under test. The waveguide can take on any form so long as it transmits the generated signal. One of ordinary skill in the art would be able to have the cable disclosed in Feese to conduct a signal as disclosed in the Lütke et al reference. Therefore, the combination seems valid.

In regard to the rejection of claims 21-31 the applicant argues in argument (4) that he twisting of Bachmann et al. is in a category like that of Feese. In addition, it discloses a much more complicated cable and in fact a plurality of cables formed into a bundle and it is highly doubtful that such an arrangement would perform according to the present invention. The examiner disagrees. First of all, the applicant makes the assumption that the twisting disclosed in the Bachmann et al reference is similar to that of Feese, when there is no support for such a statement. Even if it were the same, as discussed above, it meets the limitations of the claims, and therefore the rejection would be a valid one. Also, the fact that the Bachmann cable is more complicated

Art Unit: 2856

does not mean that it cannot perform a more "simple" function. Furthermore, if a bundle of multiple cables and their manufacture is disclosed, then one of ordinary skill would be able to construct a portion of the cable and use it as needed. In this case, the conductor bundle (3) alone would serve as the waveguide and perform as disclosed in the present application, as each portion is described, as it's own cable bundled together with other cables to form one multi-conductor control cable. For at least these reasons, the examiner feels that the rejection given is valid.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney T. Frank whose telephone number is (703) 306-5717. The examiner can normally be reached on M-F 9am -5:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone numbers for the organization


Art Unit: 2856

where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

RTF

December 13, 2002


DANIEL S. LARKIN
PRIMARY EXAMINER